

WHAT IS CLAIMED IS:

1. Suspension system comprising

- a flat spring member,
- 5 - a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member, and
- 10 - whereby $m+k = 3$.

2. The suspension system of claim 1, wherein the spring member is a cross-like spring member having $n=3$ or $n=4$ legs and wherein the suspension frame comprises $k=1$ or $k=2$ preload elements.

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3. The suspension system of claim 2, wherein the cross-like spring member is a membrane with cut outs.

4. The suspension system of one of the preceding claims, wherein
20 the suspension frame and/or the spring member comprise plastic, silicon or metal.

5. The suspension system of claim 3, wherein the preload element
comprises one or more spring elements being attached to or being an integral
25 part of the suspension frame.

6. Positioning or alignment assembly having a suspension system,
the suspension system comprising

- a flat spring member,
- 30 - a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,

- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member, and
- whereby $m+k = 3$.

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7. The positioning or alignment assembly of claim 6 further comprising at least one actuator being mechanically coupled to the spring member or being mechanically coupled to an optical element suspended by the spring member, the actuator allowing the position of the spring member and/or

10 the optical element to be adjusted.

8. The positioning or alignment assembly of claim 7 further comprising a detection unit, preferably comprising a feedback sensor, and drive electronics.

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9. The positioning or alignment assembly according to claim 6, being part of a communication system.

10. Optical system having a suspension system, the suspension system

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- a flat spring member,
 - a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
 - k preload elements, with $k = 1$, being arranged with respect to the suspension
- 25 frame and the spring member in order to provide for positive stress in an active area of the spring member,
- whereby $m+k = 3$,

the optical system further comprising an optical element being suspended by the spring member.

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11. Optical system having an positioning or alignment assembly, the positioning or alignment assembly having a suspension system, the suspension system comprising

- a flat spring member,
 - a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
 - k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member, and
 - whereby $m+k = 3$,
- the optical system further comprising an optical element being suspended by the spring member.

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12. The optical system of claim 10, serving as fast-steering mirror system

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13. The optical system of claim 11, serving as fast-steering mirror system.

14. Satellite having a suspension system, the suspension system comprising

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- a flat spring member,
- a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member, and
- whereby $m+k = 3$, and
- whereby stops are being provided which provide for a protection during launch of the satellite.

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15. Satellite having a positioning or alignment assembly, the positioning or alignment assembly having a suspension system, the suspension system comprising

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- a flat spring member,

- a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member, and
- whereby $m+k = 3$,
whereby stops are being provided which provide for a protection during launch of the satellite.

16. Satellite having an optical system, the optical system having a suspension system, the suspension system comprising

- a flat spring member,
- a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member,
- whereby $m+k = 3$,

the optical system further comprising an optical element being suspended by the spring member,

whereby stops are being provided which provide for a protection during launch of the satellite.

17. Satellite having an optical system, the optical system having a positioning or alignment assembly, the positioning or alignment assembly having a suspension system, the suspension system comprising

- a flat spring member,
- a suspension frame supporting the spring member by fixing the spring member at m positions with respect to the suspension frame, with $m = 1$,
- k preload elements, with $k = 1$, being arranged with respect to the suspension frame and the spring member in order to provide for positive stress in an active area of the spring member,
- whereby $m+k = 3$,

the optical system further comprising an optical element being suspended by the spring member,
whereby stops are being provided which provide for a protection during launch of the satellite.